APPENDIX E

Grazing Management Tools

Grazing Management Guidelines for the MCCWA

(including best management practices and additional resources)

Balls Ferry Wetlands Unit 2 Management Plan

(Western Shasta Resource Conservation District, January 2009)

APPENDIX E

Grazing Management Guidelines for the MCCWA

Range management is not a static, one-size-fits-all process. To be effective, it is site specific and includes annual planning, monitoring, evaluation, and modification. The Grazing Management Guidelines for the Mouth of Cottonwood Creek Wildlife Area are intended to be used in conjunction with the MCCWA Land Management Plan to provide the wildlife area managers with the tools needed to develop an adaptive range management and monitoring plan. Additional planning will be required to fully develop and implement a grazing management plan for the wildlife area; specifically, a state licensed Certified Rangeland Manager will be required to assist with preparation of the plan.

Background

The Land Management Plan (LMP) for the Mouth of Cottonwood Creek Wildlife Area (MCCWA) provides the context for development of a prescriptive grazing management plan for the wildlife area. It describes the management goals for the wildlife area, the geographical and cultural setting, the plant communities and species present or likely to occur, and special management considerations. An ecosystem- based adaptive management plan, the MCCWA LMP includes implementation of a monitoring program to assess whether the various management goals are being met and provisions to modify management strategies over time to changing site conditions. Livestock grazing is an historic use of the wildlife area and CDFG is interested in continuing this practice as long as it is compatible with the mission, purpose and biological goals of the wildlife area (J. Chakarun, CDFG area manager, personal communication). Issues of particular concern include:

- Preservation of wintering waterfowl habitat
- Protection of sensitive wetland resources
- Control of invasive non-native plant species
- Protection for special-status wildlife
- Riparian habitat protection and restoration

Current Grazing Operations/Lease Agreements

The Cottonwood Creek Unit is designated primarily for wildlife management and has no active grazing lease. On both the Balls Ferry Wetland Units, livestock grazing is an historical use, and is considered a management strategy to control invasive non-native plants, reduce and manage fuel loads, and provide added management income.

The most recent grazing lease for BFW1 encompassed 240 acres, including 14 acres of irrigated pasture and 18 acres of wetlands. The terms of the lease allowed year-round use, with a maximum of 40 animal units per month (AUM). The grazing lease included maintenance and repair of all fences, cattle guards, gates and other improvements upon the leased lands. Additionally, the grazing lease included repair and maintenance of water delivery equipment and payments for the water delivery from ACID for biweekly flood irrigation. Grazing leases for BFW1 were

previously renewed on an annual basis (CDFG internal files). Any future leases at BFW1 will likely be administered by the Western Shasta Resource Conservation District (WSRCD).

The recent lessee at BFW1 operated a cow-calf operation for three consecutive years. Cattle were rotated from annual grassland pastures from April thru July depending on the grass availability. Cows were scheduled to calf from mid-June through July when grass sources were high. During peak growing season, the lessee ran the maximum allotted 40 AUMs. Although the lease allowed up to 40 AUM, this number was adjusted according to the grass availability. During the late summer and fall months when grasses became depleted, some cattle were moved off site to reduce pasture stress. The remaining cattle were then moved to the irrigated pasture for grazing (D. Stroing, grazing lessee, personal communication).

BFW2 grazing lease is managed by the WSRCD on the behalf of CDFG, in accordance with the Balls Ferry Wetlands Unit 2 Grazing Management Plan (WSRCD 2009) (in *this* appendix). BFW2 includes approximately 106 acres of irrigated pasture and hay fields. The lease agreement includes grazing rights, harvesting hay, irrigation and maintenance of the facilities (all costs borne by lessee). It is the prerogative of the lessee to determine the amount of grazing and/or haying operations that occur in any given season. The WSRCD and the University of California Cooperative Extension (UCCE) Program periodically monitor the site to ensure that plant vigor is maintained and that a vegetation stubble height of 3-4 inch is available by November 1 for migrating waterfowl. The lease terms are five years, with an annual renewal clause. The lessee is additionally responsible for preparing an annual management plan that can be adjusted during the season based on monitoring data and/or site visits, and to manage the site in accordance with good husbandry and ranching practices (WSRCD Lease Agreement #CO-219, on file with CDFG).

Grazing as a Vegetation Management Tool

Grazing can be a practical, readily available, cost-effective and easily regulated resource management tool used to accomplish diverse vegetation management objectives (Table E-1). Livestock grazing can assist land managers with the maintenance of key habitat components, fire suppression and restoration of native grasslands. Grazing animals reduce thatch and litter buildup in grassland and oak savanna habitats, promoting native herbaceous plant growth. Livestock grazing can be used to reduce competition from more aggressive, non-native annual plants and to enhance opportunities for native grass restoration. Conversely, grazing animals defoliate, trample, and deposit manure and urine, which can have a positive or negative ecological impact depending on how they are managed.

Table E-1. Grazing Strategies Used to Accomplish Habitat Management Objectives

HABITAT MANAGEMENT OBJECTIVE	EXAMPLE OF GRAZING STRATEGY
• Actively manage invasive and noxious plant populations	• Prescribe heavy grazing during early growth stages for these species
• Increase diversity of native plant populations	• Graze perennials and native plants during the end of growing season and/or fall dormancy.
• Preserve and protect breeding habitat for aquatic species	• Use exclosures to prevent livestock from accessing or limiting access to water sources.

Integration of Vegetation Management Goals and Grazing Activities

Habitat management strategies that use grazing animals must be monitored and adjusted to accommodate variation among site types co-occurring within a pasture. Phenological differences among different pasture of the same type may change over the course of a season or year. Interannual variation will similarly dictate changes in timing, period of stay, etc. for each pasture each year.

Grazing regimes of different intensity and timing impact plant species uniquely based on their life history characteristics. For this reason, it is important to integrate the weed management plan with any grazing efforts. Early blooming plants may benefit from later-season grazing, while later blooming may reproduce well with the opposite treatment. Taller plants may better succeed under grazing regimes of short duration, while shorter plants may easily endure regimes of longer duration. For non-native grassland with poor forage quality, using abnormally high numbers of livestock per acre for short periods of time (called "animal impact") may act as a restorative disturbance to discourage such exotics. Management prescriptions that encourage a spectrum of grazing disturbance may facilitate conservation of more native species across the landscape (Hayes and Holl 2003).

Developing a Grazing Management Plan for the MCCWA

California Senate Bill 1094 (1994) requires that a Certified Rangeland Manager (CRM) provide rangeland consulting services on non-federal “forested landscapes” throughout the state. While there is ongoing discussion as to what is meant by forested lands (Bagley 2008, Huff 2008), the currently accepted interpretation is that land that supports at least 10% native tree cover (or that has the potential) constitutes a forested landscape.

The California-Pacific Section of the Society for Range Management oversees CRM testing and certification. CRM licenses are issued by the California Board of Forestry and Fire Protection. Covered range management activities include making management recommendations, developing

conservation plans and management plans, and other activities associated with professional rangeland management when made by professionals working in the private sector, universities, state agencies, and federal agencies when working on non-federal land (California Code of Regulations [CCR], Title 14, Section 1651).

Since MCCWA is on state-owned land and meets the definition of a forested landscape, we recommend that a California licensed CRM take the lead on preparation of a fully integrated range management plan. The recommendations presented here provide the basic information needed to start a range plan that can be integrated with the goals and monitoring strategies of the LMP.

A stand alone grazing management plan for the MCCWA should be based upon the goals and adaptive management objectives of the LMP and include a description of existing grazing practices, discussion of the major resource issues and concerns, and management priorities for the units. All available resource mapping, inventory data, and monitoring information should be used in the development of the plan. Specific measures necessary to solve related problems, minimize conflicts with other uses, and achieve desired management goals and objectives should be identified for implementation.

Completion of a range management plan for the MCCWA requires additional site-specific ecological information that is currently lacking, including focused surveys for special-status species, mapping the locations of protected cultural resources, mapping above and below-ground hydrology, existing infrastructure, erosion hazards and sites, and management problem areas in relation to the planned grazing. Additional information is needed concerning the current livestock operations, especially the number of livestock on each pasture and the frequency that they are moved. The pastures need to be accurately mapped and quantified, and water sources need to be identified.

Monitoring and Adapting the Plan

Range condition should be monitored continually, but objectives and trends should be formally evaluated at least every three years. Despite the inherent limitations of using Residual Dry Matter (RDM) criteria developed for annual grasslands to monitor perennial rangelands (Bartolome et al. 2002), it is recommended, lacking a currently accepted alternative, that annual monitoring of both RDM and established permanent photo points on representative sites be used to evaluate site changes and provide the basis for adaptation of management strategies over time. WSRCD has installed monitoring points on the BFW2. The Grazing Management Plan must be consistent with the goals and objectives of the MCCWA LMP and should be updated every five years.

Land managers should incorporate best management practices (BMPs), including exclusionary fencing to protect water resources, keeping salt and mineral licks away from wetlands, and defining pasture rotations seasonally. The Bureau of Land Management BMPs, adapted to address considerations at the Mouth of Cottonwood Creek Wildlife Area (MCCWA), are provided below for reference purposes.

Best Management Practices for Rangeland Health

Adapted from the Rangeland Health Standards and Guidelines for California and Northwestern Nevada (BLM 1998)

PLANNING AND PROCESS

1. Develop and adopt appropriate rangeland management systems and/or prescriptions for each grazing allotment. The factors to be considered in developing appropriate rangeland management systems and/or prescriptions shall include, but are not limited to, the following:

- The kind and class of livestock to be grazed;
- The intensity (stocking level), frequency, season, and duration of grazing;
- Pasture rotation and rest;
- Distribution of grazing pressure away from water bodies, riparian areas, wetlands and other sensitive areas (e.g. by fencing, herding, placement of feed supplements and alternative watering sites, rotation of concentrated use areas);
- Mulch management (residual dry matter (RDM) and/or stubble height) thresholds and/or utilization limits for specific forage species, desirable plants, or types of plant communities;
- Location, design, construction, and maintenance of range improvement structures (e.g., watering, holding, and loading facilities, fences, trails, and roads) to avoid or minimize disruption of water body, riparian and wetland functions and discharges of animal wastes and sediment into water bodies;
- Land treatments to manage vegetation and/or control invasive or noxious species (e.g., prescribed fire, mechanical methods, seeding, planting, pesticides, biological controls);
- Coordination with other land uses and management directives (e.g., recreation, hunting, education, habitat management) to avoid cumulative watershed effects; and
- Rangeland monitoring programs to determine implementation and effectiveness of standards, guidelines, and BMPs.

2. Where needed, more restrictive management practices should be established for water bodies, riparian areas, and wetlands. They should also be established in other special situations such as the following:

- Grazing at the end of the growing season and/or after fall dormancy;
- Presence of critical fisheries and/or special status species;
- Unstable stream bank or channel conditions or unhealthy riparian areas (those not fully meeting standards, or those "functioning at risk"); and
- Water bodies that have been listed as having threatened or impaired beneficial uses or provide habitat for threatened or endangered species.

3. To protect annual grassland soils from erosion, specified end-of-season mulch management thresholds shall be developed and adopted.

4. To protect designated ephemeral (annual and perennial) rangeland, reliable estimates of production should be made, and the level of annual growth, RDM, or desirable plant utilization on site at the end of the grazing season shall be specified and adopted.

5. To protect native perennial rangelands, mulch management and plant utilization thresholds specific to the perennial species shall be developed and adopted.

PRESCRIPTIVE BMPS

1. Continuous, season-long livestock grazing shall be allowed only when it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems and the integrity and beneficial uses of waters.

2. Development of water sources (including springs and seeps) or other projects affecting water and associated resources shall promote and maintain rangeland health, economic and hydrologic function and processes of watercourses and riparian/wetland areas, and where practicable, year long use by wildlife.

3. Salt blocks, other supplemental feed, and alternate shade and water sources shall be located well away from water bodies and riparian/wetland areas.

4. New livestock management facilities (e.g. (holding corrals for short term use, watering facilities, trails, and roads) shall be located well away from water bodies and riparian/wetland areas and designed to minimize discharges of sediment and animal wastes to water bodies and groundwater.

5. If existing livestock management facilities that are located close to a water body or inside a riparian/wetland area threaten the integrity and beneficial uses of water, the threat shall be eliminated by modification to the design and use of the facility, by eliminating it, or by relocating it as a new facility.

6. Range improvement structures shall be constructed and maintained to function effectively in maintaining, protecting, and/or restoring the integrity and beneficial uses of water.

7. Land treatments to manage vegetation and/or control noxious and invasive plants shall be designed and implemented to avoid or minimize disruption of water body, riparian or wetland functions and/or discharges of sediments, ash, excessive nutrients, or pesticides into water bodies.

8. Livestock trailing, bedding, watering, loading, and other handling efforts, as well as use of roads and other facilities, shall be limited to those areas and times that will not retard or prevent attainment of the integrity and/or beneficial uses of water. Trailing in vernal pools and wetlands shall be avoided whenever possible. Stream bottoms and banks need to be stabilized at frequently used livestock stream crossing locations and watering access locations to streams.

9. Any new permanent and long-term containment facilities for livestock (facilities used for other than temporally holding animals more than a few days) such as corrals, holding pens, feed lots, barns or sheds will adhere to the following guidelines:

(a) The siting and construction of the facilities should be carefully chosen based on the following guidelines and be located, designed, and constructed under the direction of qualified professionals.

i. Facilities should not be located near a stream or water body.

ii. Facilities should not be located in areas subject to overland surface flow or flooding from upslope areas.

iii. Facilities should be located on gently sloping to flat land (5% slope or less).

iv. Facilities should not be located in areas that have less than four feet from the soil surface to ground water table at any time of the year or areas having a high leaching potential.

(b) Surface runoff and related discharges from livestock containment facilities should be limited by:

i. Storing both the facility waste water and the runoff from confined animal facilities that is caused by storms up to and including a 25-year, 24 hour frequency storm. Storage structures should have a compacted clay seal or plastic membrane, be constructed with concrete, or be a storage tank. The stored runoff and accumulated solids from the facility need to be managed through an appropriate waste utilization system.

ii. Surface runoff from these facilities or animal waste stockpile should not be allowed to flow into or near a stream or waterbody.

iii. Stockpiling of animal waste should be thoroughly investigated for the potential to degrade the soil profile and ground water resources. Any runoff or drainage from animal waste stockpiles or the facility area should be routed to the runoff storage system.

iv. Manure storage or animal waste piles should be protected from precipitation and surface runoff.

v. Anaerobic ponds can be used to reduce odors and solids, improve water quality and generate methane gas.

vi. If the facility is serviced by vehicle, the site should have loading-unloading areas that are not near streams or water bodies.

(c) Inspections should be conducted regularly. A comprehensive inspection and maintenance program should be developed based upon the specifics of the site, particularly after precipitation of storm events, and repair made as required.

10. Approved livestock parasite control practices will be encouraged that reduce the probability of parasites and pathogens contaminating the water.

REFERENCES CITED

Bagley, S. 2008. Certified Rangeland Management Licensing Issues. Memorandum to Eric Huff, California Board of Forestry and Fire Protection. Dated August 4 2008. California Deputy Attorney General. Accessed online: http://www.casrm.org/documents/Certified%20Rangeland%20Managers/DAG%20Opinion%20on%20CRM.pdf

Bartolome, J.W., W.E. Frost, N.K. McDougald, and J.M. Connor. 2002. Guidelines for Residual Dry Matter (RDM) Management on Coastal and Foothill Annual Rangelands in California. UC DANR Pub 8092. Oakland, CA. 8 p.

Bureau of Land Management. 1998. Rangeland Health Standards and Guidelines for California and Northwestern Nevada: Final Environmental Impact Statement (EIS). Accessed online: http://www.blm.gov/ca/pa/rangeland_management/final_rangeland_health/APPENDIX_10.pdf

Hayes, G. F. and K. D. Holland. 2003. Cattle Grazing Impacts on Annual Forbs and Vegetation Composition of Mesic Grasslands in California. Conservation Biology 17 (6), 1694–1702.

Huff, E. 2008. Certified Rangeland Manager Program. Memorandum to Kim Zimmerman, September 23, 2008. Board of Forestry and Fire Protection, Professional Foresters Registration, Sacramento, CA. Accessed online: http://www.fire.ca.gov/cdfbofdb/pdfs/FinalCRMProgramMemoRMAC092308.pdf

Western Shasta Resource Conservation District. 2009. Mouth of Cottonwood Creek Wildlife Area, Balls Ferry Wetlands Unit 2, Management Plan. Prepared for California Department of Fish and Game, January 2009.

Additional Grazing Management Resources

Gadzia, K. and T. Graham. 2008. Bulls Eye! Targeting your rangeland health objectives, ver. 2. The Quivira Coalition, Santa Fe, NM. Accessed online: http://quiviracoalition.org/images/pdfs/1697-Bullseye_Web_Edition.pdf

Gadzia, K. and N. Sayre. 2007. Rangeland health and planned grazing: Field guide, ed. 3. The Quivira Coalition, Santa Fe, NM. Accessed online: http://quiviracoalition.org/Detailed/QC_Publications/Books/Bullseye_Targeting_Y... 934.html

National Research Council. 1994. Rangeland health: New methods to classify, inventory, and monitor rangelands. National Academies Press, Washington, D.C.

Orchard, C. and C. Mehus. 2001. Management by monitoring: Land EKG monitoring approach helps variety of users assess rangeland health. Rangelands 23(6):28-32.

Reed, F., R. Roath, and D. Bradford. 1999. The Grazing Response Index: a simple and effective method to evaluate grazing impacts. Rangelands 21(4):3-6.

Roberson, E. 1996. Impacts of Livestock Grazing on Soils and Recommendations for Management. California Native Plant Society, Sacramento, CA. Accessed online: http://www.cnps.org/cnps/archive/letters/soils.pdf

Mouth of Cottonwood Creek Wildlife Area
Balls Ferry Wetlands Unit 2
Management Plan

Prepared by the Western Shasta Resource Conservation District
For the
California Department of Fish and Game
January 2009

Mouth of Cottonwood Creek Wildlife Area
Balls Ferry Wetlands Unit 2
Management Plan

A. Background:

The 141-acre Balls Ferry Wetland Unit 2 (BFW2) is located on Balls Ferry Road and Webb Road southeast of Anderson, Ca. in an area used for hay production and livestock grazing. It includes approximately 130 acres of irrigated pasture and hay fields and 11 acres of riparian area. The surrounding area also includes significant wetlands used for waterfowl staging areas in the spring and fall during migration season.

This property was a dairy operation for several decades and was grazed by dairy cattle on a rotational basis utilizing electric fences. The property was sold to the California Department of Fish & Game (DFG) in August 2008. Since that time, it has been leased for cattle grazing and hay production on an annual basis. The current lease ended December 31, 2008.

B. Objective:

The objective of this management plan is to maintain the BFW2 in its existing condition providing quality shortgrass habitat.

Cattle grazing or haying will need to be continued to provide the valuable shortgrass pasture habitat currently used by Canada geese, shorebirds, and raptors. If grazing and/or haying were discontinued, the existing pastures would soon become decadent; reducing the wildlife habitat, allowing the encroachment of invasive weed species, and increasing the fire hazard. With very limited personnel and operating funds, the use of a grazing and/or haying program is the best management practice to accomplish wildlife habitat management goals.

The DFG has contracted with the Western Shasta Resource Conservation District (RCD) to prepare this management plan, administer the grazing contract, and oversee certain aspects of the land's management so as to provide winter geese habitat.

C. Current Situation:

Currently, 48 acres are hayed twice annually on the south side of the Balls Ferry Road and grazing occurs from April through October on the north side of the Balls Ferry Road. Both activities result in short grass and open areas, which are ideal for geese winter foraging habitat.

Anderson-Cottonwood Irrigation District (ACID) water is generally adequate throughout the project area. Lessee is responsible to pay ACID for water directly and to provide labor to irrigate as well. The lessee is responsible for maintenance of water delivery system including pipelines, valves, ditches and field checks.

D. Resource Description:

1. Topography/Soils/Climate: The topography is relatively flat with slopes from east to west at no more than 2-4% on any area. The soil survey for the property delineates 19 soil types. The soil texture is predominantly loam, but includes silty clay and mucky silts. Wetlands are made up of Pastolla muck or mucky silt and meadows are made up of loams and silty clay. The climate of the north Central Valley is Mediterranean, with cool moist winters and hot, dry summers. Precipitation, mainly in the form of rain, occurs between November and April. Average annual precipitation is 33.5 inches. The temperatures range from 29 to 100+ degrees in summer.

2. Wildlife Habitat: Numerous species of geese and waterfowl utilize this zone for migration from summer to winter habitat. Many other species may use it on a year round basis. The BFW2 and surrounding area potentially provide habitat for migratory bird species, black tail deer, coyote, bobcat, dove, and quail. Various reptiles including rattlesnake, gopher snake, king snake, blue belly lizard and others utilize the BFW2. Raptors including, Red tailed hawk, Burrowing owl, Swainson's hawk, and Rough-legged hawk Golden eagle and bald eagle are observed in the area. Many other species of birds, including neotropical song-birds may occupy on the property.

The California Natural Diversity Database reveals the following species at risk have been known to be within the surrounding area and could periodically utilize the BFW2. These species include: Greater sandhill crane, northwestern pond turtle, and Swainson's hawk. Plants shown on the Database Map include Marsh skullcap, Great Basin downingia, Macoun's buttercup, Howell's thelypodium, Howell's triteleia and Sheldon's sedge. It is unknown if these species exist on the MWPA.

3. Riparian Habitat: The riparian habitat stems from the high groundwater level on the parcel and associated wetlands on adjacent property. Anderson Creek is nearby but does not flow through the property. The riparian areas include a few native willows, but have mostly herbaceous species which include sedges, rushes, native grasses, forbs, and tules. Large trees are nearly absent, but black cottonwood could be established. The riparian zones potentially provide habitat for neotropical songbirds, raptors, quail, western pond turtles, other reptiles, fish, waterfowl and shorebirds.

4. Noxious Weeds:

There are several species of noxious weeds seen on the property. Himalayan blackberry occurs in large mounds and patches throughout the property and along

the property boundary fence line. Scotch thistle, Canada thistle, bull thistle, knapweed, hoary cress, medusahead, and an occasional yellow star-thistle have been noted in the area.

E. Management Prescription:

1. Goal: Manage the BFW2 for migratory good winter geese habitat as determined by the DFG.
2. Resource Objectives:
   a) Provide adequate forage for migratory geese from November 1 to April 1.
   b) Manage for native plant communities where possible and overall plant vigor through appropriate livestock grazing management and irrigation practices.

F. Management Guidelines to Meet BFW2 Resource Objectives: The following guidelines are designed to meet the resource objectives given the current condition and production of the BFW2. It will be at the lessee's discretion to determine what type of operation will be conducted during a particular year. The lessee can choose to hay some, all or none depending upon variables such as the price of hay, access to machinery, value of livestock, etc. The livestock numbers and how they will be grazed to meet the objectives will be at the lessee's discretion.

1. Maintain adequate winter forage for migratory geese.
   a) The lessee, DFG, UC Cooperative Extension and RCD will meet prior to February 15th to discuss lessee's overall operation for the year.
   b) The season of grazing use is April 1 to November 1.
   c) Average of 3-4" stubble height in both the grazed and hayed areas by November 1st of each year.
   d) The RCD and UC Cooperative Extension will conduct utilization monitoring during the grazing season to insure adequate forage will be left for migrating geese.
   e) If utilization monitoring data indicates a problem, the RCD will meet with the lessee to discuss changes necessary to meet the overall objectives for the current year. Cattle may be removed prior to November 1st if needed to assure an average 3-4" stubble height remains for winter geese forage.
   f) The lessee, DFG, UC Cooperative Extension and RCD will meet after the grazing season to evaluate the past year's operation.
2. Manage for native plant communities where possible and maintain overall plant vigor through appropriate management practices.
   a) Fence the riparian areas. The DFG will provide the materials to construct the riparian area fences. The lessee will be responsible for construction and maintenance of the fences.
   b) After consultation with the DFG, graze the riparian areas periodically to maintain native plant composition and vigor.
   c) Manage grazing on the irrigated lands to maintain the plant vigor during and following the grazing season.
   d) No livestock grazing will be allowed during the winter months to avoid trampling damage to soils and vegetation. If the soils are saturated on April

1, grazing will be delayed until the soils have dried adequately in order to protect the fields.

e) Salt blocks will be placed in tubs in already disturbed areas away from water.
f) Conduct late season irrigation prior to ACID turning water off to assure adequate soil moisture exists to maintain plant vigor after conclusion of the lessee's operations.
g) Eradicate noxious plants when possible.

G. Monitoring:

The monitoring program will be conducted jointly by the RCD and UC Cooperative Extension. The program includes photo points, production cages to capture growth in the absence of grazing, and transects (toe point) to determine stubble height. Noxious weeds will also be monitored and treated when it is needed and feasible.

Monitoring would include a pre-lease meeting, summer meeting, and then a September review to assure the stubble height will be attained by November l, followed by a post-grazing meeting to determine if the objectives were achieved for the current year.

H. Miscellaneous Administrative Guidelines:

1. The lease will be for five years with annual renewal options. The RCD and/or DFG may terminate the lease with due cause, following a notice letter to the lessee.
2. The lessee is required to prepare an annual grazing management program and provide copies to the RCD and DFG.
3. The lessee is required to notify the RCD two days prior to beginning operations.
4. The lessee is required to provide the RCD and DFG names and telephone numbers for two contacts responsible for any grazing or hay programs.
5. The lessee is responsible for moving livestock within twelve hours to rectify problems noted through monitoring data or site visits.
6. The lessee is responsible for procurement of fence materials and the construction and maintenance of internal fences needed to support grazing management. The fences will be temporary.
7. The lessee is responsible for maintenance of internal and external fences. The lessee is responsible for maintaining the irrigation infrastructures in the same condition as received when the lease is signed.
8. The lessee is responsible for direct payment of irrigation fees to ACID.
9. The lessee is responsible for proper management of irrigation water to assure adequate soil moisture to maintain plant vigor throughout the BFW2.
10. The lessee will receive a credit on the lease fee if the grazing season is shortened for resource management considerations outside the lessee's

control. It will be the lessee's choice as to when the credit is applied, i.e. the current year's lease fee or the following year's lease fee.

11. Dead livestock will be removed from the property and disposed of as required by law.
12. The lessee is required to be certified for operation of motorcycles or quads on the property and to wear a safety helmet when doing so.

I. Summary

It will be the lessee's yearly prerogative as to what grazing and/or hay operations would be implemented; i.e. combined grazing and hay production operations, an all-grazing operation, or an all hay production operation. All operations will be subject to the goal to leave adequate stubble height to provide winter forage for geese. Grazing and irrigation will be managed to insure plant vigor is maintained and an average 3-4" stubble height is available for winter forage for migrating geese on November 1.

Mouth of Cottonwood Creek Wildlife Area